

**SII.B.4. Cognitive Penetration 1: Introspection and Vagueness.**

In the previous section we argued that it cannot be shown that the 'logical grammars' of imaging and looking at pictures are too different to allow us to construe imagery as quasi-pictorial. A quasi-pictorial account of at least some aspects of imaging is clearly possible; the theory just cannot be refuted at that level of generality. It may nevertheless prove unsatisfactory. This may appear either if we set it in a wider context, considering whether it is coherent with our broader concepts of imagination {1} and mind, or if we look at it more minutely, seeing just how much our actual imagery experience really is like looking at a picture. It has been claimed that imagery experience is related to the content of our relevant propositional beliefs in such a way as to differ systematically from the experiences we would have in looking at the relevant pictures. Z.W. Pylyshyn, who has been the most persistent and influential critic of pictorialism within recent Cognitive Science calls such effects the "cognitive penetration" of imagery {2\*}, and the term has stuck, although most of the effects are to do with how fewer beliefs can be extracted from mental imagery than from real pictures or models, rather than beliefs embellishing or distorting images {3\*}. But in any case, the evidence for this "cognitive penetration" must be empirical. There are two sources for it: introspection and psychological

experiment. We will deal with the former here and leave the latter to the next section.

One claim that has been widely accepted is that mental images are capable of having a particular sort of vagueness or indeterminacy which pictures must lack. Pylyshyn, for example, claims that when visual information is missing from an image it is *not* in the same way that it might be missing from a picture: neither "some arbitrary section missing, like a torn photograph" {4}, nor some sort of generalised blurring or lack of resolution. Rather:

When our recollections are vague, it is always in the sense that certain perceptual qualities are absent or uncertain - not that there are geometrically definable pieces of a picture missing. (...) [Furthermore] we are more likely to recall such things as which objects were present without recalling their exact relations than we are to recall all the detailed information but with low precision. {5}.

Similarly, according to J.M. Shorter, who was perhaps first to put this sort of argument, we may quite well visualise something without visualising it to be of any particular colour, whereas a picture must have a determinate colour (even if only a shade of grey) {6}. Daniel Dennett, acknowledging a debt to Shorter, makes much the same point:

We can, and usually do, imagine things without going into great detail. If I imagine a tall man with a wooden leg I need not also have imagined him as having hair of a certain colour, having or not having a hat. If, on the other hand, I were to draw a picture of this man, I would have to go into details. I can make the picture fuzzy, or in silhouette, but unless something positive is drawn in where the hat should be, obscuring that area, the man in the

picture must either have a hat or not. {7},  
and in a further example which has become more famous

Consider the Tiger and his Stripes. I can dream, imagine or see a striped tiger, but must the tiger I experience have a particular number of stripes? If seeing or imagining is having a mental image [i.e. picture], then the image of the tiger **must** - obeying the rules of images in general - reveal a definite number of stripes showing, and one should be able to pin this down with such questions as 'more than ten?', 'less than twenty?'. If, however, imagining has a descriptive character [as Dennett here suggests], the questions need have no definite answer. {8}.

An initial objection to this argument would be that it depends on introspection about the phenomenological nature of imagery, and introspection is always open to question. For one thing it is notoriously easily distorted by theoretical preconceptions. Berkeley, convinced that images ("ideas") were pictures, makes quite the opposite claim about their subjective specificity {9}. Might we not be dealing with vague reports, vague descriptions of imagery rather than, necessarily, reports of vague images. Remember that the imagery of quasi-pictorialism is not self-intimating, but has to be looked at by the 'mind's eye'. Why might it not be that our image of the tiger **did** have a definite number of stripes, but we did not bother to count them, or the image disappeared before we had the time {10\*}? Perhaps our image of the wooden-legged man did show a hat, but, our attention caught by his leg, we failed to notice it before the image faded {11\*}. Notoriously mental image often do fade away very quickly.

Nevertheless, Shorter and Dennett may insist that

they really do have vague images, and even such a pictorialist as H.H. Price wants to acknowledge image indeterminacy (12\*). After all, the notion of a vague image is commonplace enough, and if we get too pernickety about introspection we will be left, like the Behaviorists, with little reason to believe in mental imagery at all. Some support is lent to Dennett and Shorter by Koffka (13), who found naïve subjects quite ready to report, for example: an "image of a coin of no special denomination"; or the "image of a furry animal of no specific species"; and admitting even one inherently vague image into the world ought to be enough to ruin any viable analogy with pictures. Pictures, after all, being material objects, are entirely determinate (14\*) (and states of Kosslyn's postulated visual buffer would be likewise physical and determinate). This seems to be the essence of Dennett's and Shorter's point. Unfortunately, however, it still doesn't show what they want it to. True a picture, or the state of a visual buffer encoding a picture, must be determinate under **some** description, namely a physical description - each point on the paper is either marked with pencil or not, each pixel of the visual buffer is either encoded as being 'lit' or not - but this does not mean that a picture must be determinate under **any** description. As Hannay points out, even a real, external picture of a tiger may well have

no definite number of stripes, but only some impressionistic agglomeration of incompletely individuated bands and spots of colour. (15).

Why cannot tiger images be pictures like this? Fodor goes even further: an image of a tiger, he says, may sometimes

be no more than "a sort of transient stick figure" {16}; it doesn't really have to show stripes at all. Dennett, at this point, would want to ask: what is it that makes these bands and spots an image of stripes; what makes this stick figure an image of a tiger at all; surely something is only an image of X inasmuch as it **resembles** X {17}. But Fodor has his reply ready:

What makes my stick figure an image of a tiger is not that it looks much like one (my drawings of tigers don't look much like tigers either) but rather that it's **my** image, so I'm the one who gets to say what it's an image of. My images (and my drawings) connect with my intentions in a certain way; I **take** them as tiger-pictures for purposes of whatever task I happen to have in hand. Since my mental image **is** an image, there will be some visual descriptions under which it is determinate; hence there will be some questions whose answers I can 'read off' the display, and the more pictorial the display is the more such questions there will be. But, in the case of any given image, there might be arbitrarily many visual properties which would not be pictured but, as it were, carried by the description under which the image is intended. The image will, ipso facto, not be determinate relative to these properties. {18}.

This seems convincing enough {19\*}. It appears that quasi-pictorialism has, with one bound, escaped from the clutches of its critics yet again {20\*}. And such a solution, it must be said, should be entirely acceptable to Kosslyn who, like Fodor, would furnish the mind not only with images but also with an independent language-like medium for cognitive processing {21}. However, the victory, like that over Ryle and his smiling doll, may be something of a Pyrrhic one. It is at the cost of again, and perhaps drastically, reducing the scope and significance of the

imagery function {22}. The content, the meaningfulness, the representational character, the intentionality of imagery is no longer seen as inherent in it {23\*}, rather it is seen as derivative from the intentionality of another representational system in which it is embedded. The descriptions which tell us what our images are images of (or, indeed, the descriptions or reports produced as we 'notice' or fail to 'notice' the various features of our images) are to be couched in this other representational system. 'Descriptions' must presumably be expressed in some form of language. Whether this be our Natural Language, English or whatever {24}, or whether it be some sort of innate, unconscious 'Language of Thought' in which the brain operates (as Fodor, along with very many contemporary cognitive theorists, conceives it {25\*}) makes little difference for now. The point is that to save quasi-pictorialism imagery has become secondary to, parasitic upon, some sort of language. Instead of imagery being the essential mediator between reality and reason, as it was from the time of Aristotle to the time of H.H. Price {26}, rôles are reversed and language must now mediate between the world and the somewhat redundant mental image. How language could do this remains, to me at least, pretty mysterious.